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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/826,528

Applicant(s)

CHEUNG ET AL.

Examiner

Kile O. Blair

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-10, 18-33 and 35-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-10, 18-33 and 35-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This Office action is in response to the communication filed on 12/17/08. Claims 1-3, 5-10, 18-33 and 35-38 are pending. Claim 38 is newly added.

Applicant filed a request for continued examination on 12/17/08 however prosecution of the application was not closed. Continued examination under 37 CFR 1.114 does not apply to an application unless prosecution in the application is closed. The RCE was accompanied by a reply to a non-final Office action, therefore the reply will be entered and considered under 37 CFR 1.111.

Claim Objections

Claims 1 and 2 are objected to because of the following informalities: In claim 1, "accessibly" should be "accessible". In claim 2, "connect" should be "connected". In claim 38, "transmitted" (as it occurs in the phrase "paired with the removable wireless RF transmitted") should be "transmitter". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 38 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 38 recites the limitation "said personal audio device". There is insufficient antecedent basis for this limitation in the claim. The examiner recommends that the claim should recite "said personal mobile device".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3, 5-10, 18-20, and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al. (US Pub. No. 2002/0149705 A1, hereinafter as Allen, see PTO-892 mailed 10/18/07) in view of Zurek et al. (US Pat. No. 6,363,139 B1, hereinafter as Zurek, see IDS filed 2/22/05).

Regarding claim 1, Allen teaches a system for enhancing an audio system (the set top box and hybrid communicator/ remote control, see Fig. 3, 102 and Fig. 2, 106, Allen), the audio system delivers audio output to an audio output terminal (telephony circuit which is connected to transmitter and can output audio signals to transmitter, see

Fig. 3, 303 and [0071], Allen), said system comprising: a wireless RF transmitter that connects to the audio output terminal to receive the audio output and wirelessly transmits signals corresponding to the audio output (wireless transmitter, Fig. 3, 202, Allen); and a personal audio device usable by a user to hear the audio output (hybrid communicator/ remote control, Fig. 2, 106, Allen), said personal audio device including at least: a wireless RF receiver capable of receiving the wirelessly transmitted signals by said wireless RF transmitter (receiver, Fig. 2, 204, Allen); a controller operatively connected to said wireless RF receiver (volume buttons, Fig. 2, 220, Allen), and a speaker operatively connected to said controller (hybrid communicator/ remote control speaker, Fig. 2, 242, Allen); wherein said system further includes a data storage device for storing user information regarding the particular user (history of recent calls to show contacts with whom the user has communicated, [0091], Allen), wherein said system, generates a customized audio output based on the audio output and the user information (a digital audio sample of a contact's spoken name found on list, Fig. 2, 252, [0096], Allen), and wherein said speaker produces an audio sound output in accordance with the customized audio output (playback of the digital audio sample of a contact's spoken voice [0096], Allen). In addition, Allen also teaches that the described features, structures, or characteristics may be combined in any suitable manner in one or more embodiments (see [0028], Allen). Therefore, any features from one embodiment of the invention are inherently existent in another embodiment where said features may be combined in a suitable manner.

Although Allen does not explicitly teach the housing related features wherein the audio system has a housing, wherein the audio output terminal is externally accessibly to the housing, and wherein said wireless RF transmitter is external to the housing but connects to the audio output terminal, it would have been obvious to provide a housing for the audio system with the motivation of protecting it from normal wear and tear, and further it would have been a matter of obvious design choice to choose a certain combination of which elements are internal and external to a specified housing and how they are connected since there is a small finite number of configurations possible.

Although Allen does not explicitly teach the feature wherein the user information comprises a user hearing profile and that a customized audio output is output based on the user hearing profile, Zurek discloses a user hearing profile (Zurek, col. 6, lines 59-63). It would have been obvious to one of ordinary skill in the art to combine the communication system of Zurek with that of Allen with the motivation of further customizing the device for a user by customizing the speaker output based on the user hearing profile (volume control or equalization algorithms optimized to the user's hearing profile, Zurek, col. 6, lines 59-63).

Regarding claim 2, Allen in view of Zurek teaches a system as recited in claim 1, wherein said controller operatively connects to said data store (hybrid communicator/ remote control or the set top box 102, both of which can store contacts in certain embodiments, [0059], Allen), and wherein said controller operates to produce the customized audio output based on the audio output and the user information (playback of the digital audio sample of a contact's spoken voice [0096], Allen).

Although Allen in view of Zurek does not explicitly teach the feature wherein said data storage device is removably connected to said personal audio device, it would have been obvious to one of ordinary skill in the art to make the data storage removable because doing so is a known method of storing data that would have been readily apparent.

Regarding claim 3, Allen in view of Zurek teaches a system as recited in claim 1, wherein said system is provided internal to a building (the device is for use in a room, Allen, [0126]).

Although Allen in view of Zurek does not explicitly teach the feature wherein said controller produces ultrasonic drive signals based on the customized audio output and supplies the ultrasonic drive signals to said directional speaker for output of the audio sound output in a directionally constrained manner, wherein the speaker is an ultrasonic speaker, and wherein the audio sound output in the directionally constrained manner is for delivery for one or more persons internal to the building, Zurek teaches a communication system with an ultrasonic transducer (Zurek, col. 2, lines 11-19, Allen) that can output signals in a directionally constrained manner (Zurek, col. 2, lines 41-45, Allen). It would have been obvious to combine the communication system of Zurek with that of Allen with the motivation of reducing interference between devices (Allen, [0050]) and increasing privacy of communication.

Regarding claim 5, Allen in view of Zurek teaches a system as recited in claim 1, wherein the user information comprises at least one user preference (The user

information component of the hybrid communicator/ remote control can store user preferences [0082], Allen).

Regarding claim 6, Allen in view of Zurek teaches a system as recited in claim 1, wherein said personal audio device further obtains environmental information pertaining to the vicinity of said personal audio device, and wherein the customized audio output is further dependent on the environmental information (Retraining of noise cancellation module 908 based on the acoustics of the room can be done automatically by the device, [0126]; Noise cancellation module may be implemented within the hybrid communicator/ remote control, [0124], Allen).

Regarding claim 7, Allen in view of Zurek teaches a system as recited in claim 6, wherein the environmental information includes at least a noise level, and wherein the volume of the audio sound output is dependent on the noise level (noise generator may generate a white noise which will then be used to modify the adaptive filter to improve noise cancellation affecting the audio sound output, [0125], Allen).

Regarding claim 8, Allen in view of Zurek teaches a system as recited in claim 6, wherein said personal audio device further comprises: at least one environmental sensor that acquires the environmental information (microphone of the hybrid communicator/ remote control, [0127]; see Fig. 2, 244, Allen).

Regarding claim 9, Allen in view of Zurek teaches a system as recited in claim 6, wherein the environmental information is determined based on a position of said personal audio device or the user (the microphone (Fig. 2, 270) mounted on a boom of the headset (Fig. 2, 264) connected to the hybrid communicator/ remote control that is

used to reduce television audio interference by placing the microphone closer to the user's mouth, [0050], Allen).

Regarding claim 10, Allen in view of Zurek teaches a system as recited in claim 1, wherein said wireless RF transmitter operates to produce the customized audio output based on the audio output and the user information (The hybrid communicator/ remote control is a wireless transmitter and it includes a data store for storing contacts [0059]. The hybrid communicator/ remote control operates to produce a verbal identifier based on audio output and user information in data store [0024], Allen).

Although Allen in view of Zurek does not explicitly teach the feature wherein said data storage device is removably connected to said wireless RF transmitter, it would have been obvious to one of ordinary skill in the art to make the data storage removable because doing so is a known method of storing data that would have been readily apparent.

Regarding claim 18, Allen in view of Zurek teaches a system as recited in claim 1, wherein the audio system is an entertainment system (The audio system can be used with a television set for entertainment; Fig. 1, 104, Allen).

Regarding claim 19, Allen in view of Zurek teaches a system as recited in claim 1, wherein said data storage device is a removable memory card that is portable and removable from said personal audio device (The hybrid communicator/ remote control including data store is able to be removed from the system and comprises a memory card; Fig 1, 106, Allen).

Regarding claim 20, Allen in view of Zurek teaches a system as recited in claim 1, wherein said personal audio device is wearable by the user (The hybrid communicator/ remote controller shown in figure 2 is able to be worn by placing the headset {264} on the user's head, Allen).

Regarding claim 35, Allen in view of Zurek teaches a system as recited in claim 1.

Although Allen in view of Zurek does not explicitly teach the feature wherein the user hearing profile includes at least one hearing characteristic of the particular user, and wherein said system generates the customized audio output specifically for the particular user based on the audio output and the at least one hearing characteristic of the particular user, Zurek discloses a user hearing profile (Zurek, col. 6, lines 59-63). It would have been obvious to one of ordinary skill in the art to combine the communication system of Zurek with that of Allen with the motivation of further customizing the device for a user.

Regarding claim 36, Allen in view of Zurek teaches a system as recited in claim 34, wherein personal audio device includes the data storage device (hybrid communicator/ remote control or the set top box 102, both of which can store contacts in certain embodiments, [0059], Allen), and wherein said personal audio device generates the customized audio output (a user can select a desired contact to be used with the hybrid communicator/remote control, [0092], and the audio sample is played through hybrid communicator/remote control, [0096], Allen).

Regarding claim 37, Allen in view of Zurek teaches a system as recited in claim 1, wherein personal audio device includes the data storage device(hybrid communicator/ remote control or the set top box 102, both of which can store contacts in certain embodiments, [0059], Allen), and wherein said personal audio device generates the customized audio output (a user can select a desired contact to be used with the hybrid communicator/remote control, [0092], and the audio sample is played through hybrid communicator/remote control, [0096], Allen).

Claims 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Warren (US Pat. No. 7,013,009 B2, see IDS filed 1/12/07).

Regarding claim 21, Warren teaches a system for enhancing an audio system, the audio system delivers audio output to an audio output terminal (the mentioned cellular phone or compact disc player and their audio output terminal, col. 4, lines 21-31), said system comprising: a personal audio device usable by a user to hear the audio output (eyeglasses 10, col. 4, lines 23-31), said personal audio device including at least: a wireless RF receiver capable of receiving the wirelessly transmitted signals by said wireless RF transmitter (receiver, col. 3, lines 42-45); a controller operatively connected to said wireless RF receiver (the volume controller adjusts the volume of the sound from the receiver that is output by the speaker, col.5, lines 15-16); and a directional speaker operatively connected to said controller, said speaker produces a directional audio sound output in accordance with the audio output, wherein the directional audio sound output is an audio sound output that is directionally constrained (the speaker can be a

directional speaker, col. 5, lines 4-7), and wherein said personal audio device is a mobile device that is for use by a particular user, and wherein said personal audio device is portable by the particular user (the eyeglasses can be used by a particular user while biking, col. 4, lines 4-8).

Although Warren does not explicitly teach the feature of an external wireless RF transmitter provided as an attachment that removably connects to the audio output terminal to receive the audio output and wirelessly transmits signals corresponding to the audio output (cellular phone or compact disc player must inherently have a wireless transmitter in order to communicate with the eyeglasses as disclosed), it would have been obvious to one of ordinary skill in the art to make the antenna or other wireless transmitter removable for various reasons one of which might be so that when subjected to rough conditions, the transmitter can be detached and stored away so that it will not be broken as would have been readily apparent to one of ordinary skill in the art.

Regarding claim 23 Warren teaches a system as recited in claim 21. although Warren does not explicitly disclose the feature wherein the directional audio sound output by said directional speaker is substantially confined to a predetermined direction plus or minus 15 degrees, it would have been a matter of obvious design choice to find an optimum value to one of ordinary skill in the art to use a directivity of plus or minus 15 degrees.

Claims 22, 24-26, 29-31, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Warren in view of "Technology Introduction," American Technology Corporation, 2001, pp. 1-19 (hereinafter as "ATC", see IDS filed 1/21/05).

Regarding claim 22, Warren teaches a system as recited in claim 21. Although Warren does not explicitly teach the feature wherein said directional speaker is an ultrasonic speaker, and wherein the signals driving the speaker are ultrasonic drive signals that are supplied to said directional speaker for output of the directional audio sound output, it would have been obvious to use the hyper sonic sound as disclosed by ATC (ATC, Page 5) since ATC discloses that ATC may be used in directional speakers in communication devices (ATC, Page 9) and using hypersonic sound in the directional speakers of Warren would have yielded a predictable result.

Regarding claim 24, Warren teaches a personal audio device usable by a user to hear audio sound (eyeglasses 10, col. 4, lines 23-31), said personal audio device comprising: a controller for transforming audio data into speaker drive signals; and a speaker operatively connected to said controller, said speaker produces a directional acoustic output in accordance with the speaker drive signals (the volume controller adjusts the volume of the sound from the receiver that is output by the speaker, col.5, lines 15-16), the directional acoustic output being an audio sound output that is directionally constrained wherein the speaker drive signals are drive signals that are supplied to said speaker (the speaker can be a directional speaker, col. 5, lines 4-7), wherein said personal audio device is for use by a particular user, wherein said personal audio device is a mobile device, and wherein said personal audio device is

portable by the particular user (the eyeglasses can be used by a particular user while biking, col. 4, lines 4-8).

Although Warren does not explicitly disclose that the speaker uses ultrasonic signals, it would have been obvious to do so for the same reasons as in the rejection of claim 22.

Regarding claim 25, Warren in view of ATC teaches a device as recited in claim 24, wherein said personal audio device further comprises: a wireless RF receiver capable of receiving the audio data that are transmitted to said personal audio device by a wireless RF transmitter (receiver, col. 3, lines 42-45).

Regarding claim 26, Warren in view of ATC teaches a device as recited in claim 24, wherein said personal audio device is capable of being worn (eyeglasses 10, col. 4, lines 23-31).

Regarding claim 29 Warren teaches a method for providing audio sound output from an audio system to a user in a wireless manner (eyeglasses provide audio sound from a cell phone, col. 5, lines 19-24), said method comprising: receiving audio signals at a wireless audio adapter that is attached to an audio output port of the audio system, the audio signals being provided by the audio system via the audio output port (there is inherently an audio output port at which the BLUETOOTH antenna or wireless audio adapter is attached); wirelessly transmitting, via the wireless audio adapter and radio frequency transmissions, the audio signals to a specific personal audio device that has a directional speaker (the eyeglasses receiver the audio signals, col. 5, lines 19-24; and there is a directional speaker, col. 5, lines 4-7); and producing audio sound output using

the directional speaker (the directional speaker plays sound, col. 5, lines 4-7), the audio sound output being based on the audio signals (the receiver communicates with the speaker and outputs audio signals, col. 5, lines 18-25), and the audio sound output being in a directionally constrained manner (directional speaker, col. 5, lines 4-7), wherein the personal audio device is a mobile device that is for use by a particular user ((the eyeglasses can be used by a particular user while biking, col. 4, lines 4-8)

Although Warren does not explicitly teach the feature wherein said directional speaker is an ultrasonic speaker, and wherein the signals driving the speaker are ultrasonic drive signals that are supplied to said directional speaker for output of the directional audio sound output, it would have been obvious to use the hyper sonic sound as disclosed by ATC (ATC, Page 5) since ATC discloses that ATC may be used in directional speakers in communication devices (ATC, Page 9) and using hypersonic sound in the directional speakers of Warren would have yielded a predictable result.

Although Warren does not explicitly teach that the wireless audio adapter is removable, it would have been obvious to one of ordinary skill in the art to make the wireless audio adapter removable for various reasons one of which might be so that when subjected to rough conditions, the transmitter can be detached and stored away so that it will not be broken as would have been readily apparent to one of ordinary skill in the art.

Regarding claim 30, Warren in view of ATC teaches a method as recited in claim 29, wherein said producing comprises: generating ultrasonic drive signals based on the

audio signals for the directional speaker (the ultrasonic signals of ATC are used in the directional speaker of Warren, col. 5, lines 4-7).

Regarding claim 31, Warren in view of ATC teaches a method as recited in claim 29, wherein said producing comprises obtaining user information pertaining to the particular user wherein the audio sound output being produced is further based on the user information (the speaker can be extended, pivoted, or otherwise moved based on whether it is currently needed or not which user information, Warren, col. 6, lines 19-27).

Regarding claim 33, Warren in view of ATC teaches a method as recited in claim 29, wherein said producing comprises obtaining at least one environmental characteristic pertaining to the vicinity of the personal audio device, wherein the audio sound output being produced is further based on the at least one environmental characteristic (the volume control is used to adjust the audio signal based on the environmental noise level, col. 5, lines 15-17).

Claims 27 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Warren in view of ATC in further view of Okubo et al. (US Pat. No. 5,450,494, hereinafter as Okubo, see PTO-892 mailed 5/14/08).

Regarding claim 27 Warren in view of ATC teaches a device as recited in claim 24. Although Warren in view of ATC does not explicitly teach the feature wherein, when said controller produces the speaker drive signals, said controller takes into consideration a hearing characteristic of the user, it would have been obvious to use the

controller of Okubo (amplification controller that receives signal based on hearing characteristics of the user, col. 6, lines 4-9) because doing so would have been obvious to try with the motivation of having the controller provide more customized sound to the user.

Regarding claim 32, Warren in view of ATC teaches a method as recited in claim 31. Although Warren in view of ATC does not explicitly teach the feature wherein the user information comprises an audio hearing characteristic associated with the user, it would have been obvious to use the controller of Okubo (amplification controller that receives signal based on hearing characteristics of the user, col. 6, lines 4-9) because doing so would have been obvious to try with the motivation of having the controller provide more customized sound to the user and determining whether or not the user needs the speaker to be moved or adjusted.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Warren in view of ATC in further view of Okubo and in further view of Brain, Marshall, How USB Ports Work, October 11, 2002, www.howstuffworks.com/usb (hereinafter as "Brain", see IDS filed 1/17/08).

Regarding claim 28 Warren in view of ATC in further view of Okubo teaches a device as recited in claim 27. Although Warren in view of ATC in further view of Okubo does not explicitly teach the feature wherein the hearing characteristic is provided to said personal audio device by a removable, portable data storage device that can operatively connect to said personal audio device, it would have been obvious to use a

portable USB data storage device (Brain, pg. 4, ¶ 5) with the motivation of providing the ability to easily import new hearing characteristics based on different users.

Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto (US Pub. No. 2003/0026439 A1, see PTO-892 attached) in view of Warren.

Regarding claim 38, Yamamoto teaches a kit for enhancing an audio system, comprising: a removable wireless RF transmitter (plug transmitter 10, [0041], that is removable from output terminal 101 of MD player 100, [0046], fig. 2, Yamamoto) suitable for removable attachment to an audio output terminal (output terminal 101 of MD player 100, [0046], fig. 2, Yamamoto) of the audio system (MD player 100, [0046], fig. 2, Yamamoto) to receive an audio output and wirelessly transmits signals corresponding to the audio output (plug transmitter 10 transmits an output signal of the MD player 100 as a radio wave, [0054], Yamamoto).

Although Yamamoto does not explicitly teach the feature of a personal mobile device usable by a user to hear the audio output, Warren teaches wireless eyeglasses (col. 3, lines 38-42, Warren), said eyeglasses of Warren, i.e. personal mobile device, including at least: a wireless RF receiver (receives radio signals, col. 5, lines 21-24, Warren); a controller operatively connected to said wireless RF receiver (volume control, col. 5, lines 15-16, Warren); and a directional speaker operatively connected to said controller, said speaker produces a directional audio sound output in accordance with the audio output (speaker can be directional, col. 5, lines 4-7, Warren).

It would have been obvious to one of ordinary skill in the art to implement the transmitter of Yamamoto with the eyeglasses of Warren, where the RF receiver of Warren is frequency paired with the removable wireless RF transmitter of Yamamoto and capable of receiving the wirelessly-transmitted signals by said wireless RF transmitter, with the motivation of using the eyeglasses of Warren to listen to a media device that may not have a built-in RF transmitter (i.e. a compact disc player) as disclosed by Warren (CD player, col. 4, lines 21-30) and Yamamoto (CD player, [0056]).

Response to Arguments

Applicant's arguments filed 12/17/08 have been fully considered but they are not persuasive.

Applicant argues on pgs. 11-12 of the remarks filed 12/17/08, with regards to claim 1, that the feature of having the wireless RF transmitter be external to the housing and connected to the audio output terminal is not obvious over Allen. The examiner asserts that such a configuration is obvious since the results obtained over the system of Allen (i.e. having an external wireless transmitter connectable to an audio output terminal) would have yielded predictable results. Although Allen may have not intended to implement the disclosed device in a way that allows after market adaptation, it still would have been readily apparent that such an implementation was possible and the results and benefits of doing so would have been within the ready grasp of those of ordinary skill in the art at the time the invention was made.

Applicant argues on pg. 12, with regards to claim 20, that Allen does not teach that the personal audio device is wearable by a user. The applicant does allow that the headset 264 of Allen is wearable, therefore the examiner asserts that the personal audio device of Allen is wearable through the use of the headset 264.

Applicant argues on pg. 12 that the manner of combining the hearing profile of Zurek with the personal audio device of Allen is not evident, at least partly, because Allen does not disclose an earpiece. The examiner notes that Allen does teach a headset 264 and it would have been evident to one of ordinary skill in the art to use the hearing profile of Zurek with the motivation of customizing the device for the user.

Applicant argues on pg. 14 that claim 21 is not obvious in view of Warren since Warren teaches an internal transmitter and teaches away from an external transmitter. The examiner agrees that Warren teaches an internal transmitter (fig. 1, Warren), however the examiner disagrees that Warren teaches away from using an external transmitter attachable to an audio output terminal.

Warren provides guidance that "It will be understood that the cell phone 32 may need to be adapted for sending and receiving signals wirelessly to and from the eyeglasses 10. Such adaptations are known in the art [...]" (Warren, col. 4, lines 13-18) and Warren also notes "For example, the receiver 28 can be configured with BLUETOOTH [...] for wireless reception of radio signals [...] from the cell phone" (Warren, col. 5, lines 21-24).

Warren clearly does not teach away from adapting a cell phone to include an external transmitter, and even suggests that "the cell phone 32 may need to be

adapted" (Warren, col. 4, lines 13-18). The examiner argues that one of ordinary skill in the art would have found it readily apparent that a cell phone with an audio output terminal could have been retrofitted with an appropriate transmitter attached in view of the teachings of Warren.

Applicant's arguments on pgs. 15-16 with respect to claim 29 are not persuasive for the reasons identified above with respect to claim 21.

Applicant argues on pgs. 14-15, with respect to claim 24, that the speakers of ATC are too large or are for transmitting ultrasonic waves over too far of a distance to be used with the eye glasses of Warren. The examiner asserts that it would have been apparent to one of ordinary skill in the art how to adapt the speakers and tune them for the desired distance used in the particular device as evidenced by the disclosure of Taenzer et al. (US Pat. No. 6,631,196, hereinafter as Taenzer, see IDS filed 6/29/07).

Taenzer teaches an output device 108 that is an ultrasonic transducer (Taenzer, col. 7, lines 5-6) used for close transmission of directional (others will not hear sound, Taenzer, col. 6, lines 36-40) audio that can be placed in any convenient location near the ear (Taenzer, col. 7, lines 14-18).

Accordingly, the examiner argues that one of ordinary skill in the art would have been able to transmit ultrasonic sound from an ultrasonic speaker based upon the combined teachings of Warren in view of ATC as demonstrated by Taenzer.

Applicant's arguments on pgs. 10 and 11 with respect to claim 1 concerning a hearing profile have been considered but are moot in view of the new ground of rejection necessitated by applicant's amendment.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kile O. Blair whose telephone number is (571) 270-3544. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Vivian Chin/
Supervisory Patent Examiner, Art Unit 2614